

Advantage[®] 400 Series

Durability Testing & Application Guide

MSA Advanced Durability Testing

- Accelerated age conditioning: 5 weeks at a constant 71°C (160°F): **PASSED**
- Tested to NIOSH CBRN full face piece standard for environmental conditioning, consisting of 3 weeks of cyclic hot temperatures (71°C / 160°F), 3 days constant cold at -32°C (-25°F), 5 days cyclic temperature (31°C / 88°F – 40,5°C / 105°F), and humidity (59%RH – 88%RH): **PASSED**
- Respirators were subjected to transportation simulation testing for 36 hours, using only poly bag for protection: **PASSED**
- Respirators with MSA combination cartridges attached were subjected to drop testing: respirator was dropped 3 times (1 per axis) on concrete flooring from 1,50 (5 ft.) elevation: **PASSED**
- After completing all tests previously listed, face pieces must be able to pass mechanical tightness and back-leakage tests: **PASSED**
- Locking lever tested for strap abrasion: 2.500 cycles of opening and closing: **PASSED**
- Respirator cartridges were cycled on and off respirator 2.500 times with positive no-leak fit: **PASSED**
- Respirator strap / face piece abrasion was tested with 2.500 cycles of pulling straps across face of respirator: **PASSED**
- Respirator cleaning cycles were performed to help ensure 10-year life with regular washings: **PASSED**

Note: These tests are not required in the standards; they are performed solely by MSA to help ensure long respirator life without degradation.

Applications

The Advantage 400 Series Respirator has undergone extensive durability testing to help ensure a long life in many different work environments and applications.

- **High heat environments:**
steel mills, foundries, hot-houses, coke ovens, bagging operations
- **Extreme cold conditions:**
drilling rigs, construction, rail road repair, Northern climates
- **Welding applications:**
hex chrome, carbon steel, brazing, soldering, metal pouring
- **Painting:**
bridge repair, construction painting, coatings, chemical overlays
- **Rough handling:**
transportation, construction sites, shipping, moving vehicles
- **Petrochemical exposure:**
chemical manufacturing, dipping / coating operations, sampling

